

Remarks

Claims 1-16 are pending in the application. Reconsideration and allowance of the application are respectfully requested.

The non-final Office Action dated August 24, 2007 lists the following objections: the drawings are objected to as failing to comply with 37 CFR 1.84(p)(4); claim 1 is objected to because of inconsistent numbering; and claim 3 is objected to because the reference character "5" is referring to what appears to be two different parts. The following rejections are also listed in the instant Office Action: claim 1 stands rejected under 35 U.S.C. § 112(2); claims 1, 2 and 13-16 stand rejected under 35 U.S.C. § 102(b) over Hopper *et al.* (U.S. Patent No. 6,285,057); claims 3-7 stand rejected under 35 U.S.C. § 103(a) over Hopper in view of Takemura *et al.* (U.S. Patent No. 5,576,221); claims 8-10 and 12 stand rejected under 35 U.S.C. § 103(a) over Hopper in view of Wang *et al.* (U.S. Patent Pub. 2003/0045119); and claim 11 is stands rejected under 35 U.S.C. § 103(a) over Hopper in view of Wang as applied to claims 8-10 above, and further in view of Takemura.

Applicant respectfully traverses the objection to the drawings because the drawings are in compliance with 37 CFR 1.84(p)(4). As indicated in Applicant's specification, Figures 3-8 are cross-sectional views of Figure 2. The groove 5 in Figures 3-8 is the cross-section of the second recess 5 shown in Figure 2. Thus, the same part (*i.e.*, the second recess and the groove), which appears in more than one view of the drawings, is designated by the same reference character as required by 37 CFR 1.84(p)(4). Thus, Applicant requests that the objection to the drawings be removed.

Regarding the objections to claims 1 and 3, in an effort to facilitate prosecution, Applicant has removed the reference numerals from the claims. As such, Applicant requests that the objections to claims 1 and 3 be removed. Applicant notes that minor amendments have been made to clarify the claims in view of the removal of the reference numerals. These amendments are not being made to overcome the rejections raised by the Office Action, which fail for the reasons discussed herein.

Applicant respectfully traverses the Section 112(2) rejection of claim 1 because claim 1 does particularly point out and distinctly claim that which Applicant regards as the invention. Applicant notes that the language "for both the dielectric layer and the further dielectric layer use is made of the same dielectric layer" is no longer present in the

claims. Regarding the language “substantially completely”, Applicant submits that this language would be clear to one of skill in the art based on Applicant’s specification (*i.e.*, that the second recess is essentially entirely filled with the dielectric layer). *See, e.g.*, Figures 3 and 4; Paragraphs 0028 and 0029. Therefore, the Section 112(2) rejection of claim 1 is improper and Applicant requests that it be withdrawn.

Applicant respectfully traverses the Section 102(b) rejection of claims 1, 2 and 13-16 because the cited portions of the Hopper reference do not correspond to the claimed invention. Applicant notes that while the Office Action cites to several portions of the Hopper reference, the Office Action does not specifically cite any elements of Hopper as corresponding to any aspects of the claimed invention. For example, the Office Action has not identified any teachings of Hopper that correspond to a first recess, the walls of which are covered with a dielectric layer, and a second recess that is substantially completely filled with the dielectric layer. The cited portions of Hopper teach forming two identical trenches 202, and then forming dielectric spacers 206 along the sidewalls of the trenches 202. *See, e.g.*, Figures 4-6 and Col. 4:30-60. However, Hopper does not teach substantially completely filling one of the trenches 202 with dielectric layer 208 as in the claimed invention. The Hopper reference in actuality teaches filling the expanded trench 210 with conductive trench fill layer 216. *See, e.g.*, Figure 10 and Col. 5:23-24.

Moreover, the cited portions of Hopper further fail to correspond to aspects of the claimed invention directed to a semiconductor island being formed. Hopper teaches that the expanded trench 210 extends beneath the active area region 205 (on which MOSFET 219 is formed) and defines a vertical-channel region 212 beneath the active area region 205. *See, e.g.*, Figures 7 and 11; Col. 4:61-64. Thus, Hopper does not teach forming a semiconductor island as in the claimed invention.

In view of the above, the Section 102(b) rejection of claims 1, 2 and 13-16 is improper and Applicant requests that it be withdrawn.

Applicant respectfully traverses each of the Section 103(a) rejections of claims 3-12, which rely upon the Hopper reference, because the cited portions of Hopper do not correspond to the claimed invention as discussed above in relation to the Section 102(b) rejection of claim 1. In at least this regard, the Section 103(a) rejections of claims 3-7 are improper because these claims depend from claim 1 and the rejections thus rely upon the

same mischaracterization of the Hopper reference. Therefore, Applicant requests that the Section 103(a) rejections of claims 3-12 be withdrawn.

Applicant further traverses the Section 103(a) rejection of claims 3-7 because the Office Action has not viewed the claimed invention and the cited references as a whole. The Office Action has not addressed the asserted combination to the specificity necessary to identify an intelligible structure or method. M.P.E.P. § 2141.02 requires that the Examiner consider both the invention and the prior art teachings as a whole. A review of the Office Action and the cited references does not clarify what structure or method the Office Action asserts as corresponding to Applicant's claimed invention. These problems are further exacerbated by the Office Action's lack of any cites to specific elements of the cited references.

As a first example, regarding claim 3, the Office Action appears to cite Takemura's grooves 7 as corresponding to Applicant's second recess, however, no explanation is provided concerning how Takemura's grooves 7 are to be combined with the Hopper reference. As a second example, regarding claim 4, the Office Action also appears to cite Takemura's grooves 7 as corresponding to Applicant's grooves which divide the semiconductor island into sub-islands, but Takemura does not teach that there are any grooves in the layers formed inside of the grooves 4. *See, e.g.*, Figure 7D. Thus, the cited portions of Takemura do not teach grooves that divide a semiconductor island into sub-islands as in the claimed invention. As a third example, regarding claims 6-7, the Office Action cites Takemura's layers 7 and 8 as corresponding to Applicant's first and second semiconductor layers, however, the references do not show, and the Office Action does not explain how these layer's 7 and 8 are to be combined with the Hopper reference.

In view of the above, Applicant submits that the Office Action has simply identified teachings from the Takemura and Hopper references, without providing any explanation regarding which elements from the references are to be combined or how these elements are to be combined. Thus, the Office Action fails to view the claimed invention and the cited references as a whole. Therefore, the Section 103(a) rejection of claims 3-7 is improper and Applicant requests that it be withdrawn.

Applicant further traverses the Section 103(a) rejection of claims 8-10 because the cited combination does not correspond to aspects of the claimed invention directed to

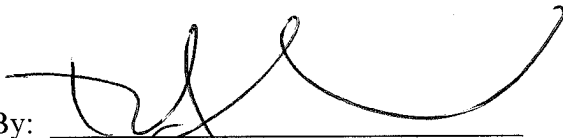
selectively etching semiconductor layers made of different semiconductor materials to form a cavity. The cited portions of Hopper do not teach that substrate 200 is formed of layers of different types of semiconductor materials (*see, e.g.*, Figures 6-7) and the cited portions of Wang also do not teach that substrate 100 is formed of layers of different types of semiconductor materials (*see, e.g.*, Figures 4-6 and Paragraphs 0032-0033). Thus, the cited portions of the Hopper and Wang references do not teach selective etching of different types of semiconductor materials to form the cavity as in the claimed invention. Moreover, claims 8-10 depend from claim 6, which is not subject to rejection over Hopper in view of Wang. Accordingly, the Section 103(a) rejection of claims 8-10 is improper and it must be withdrawn.

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063 (or the undersigned).

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